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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,656	10/14/2005	Ana Isabel Sanz Molinero	BJS-2491-106	5797

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EXAMINER	
KUMAR, VINOD	
ART UNIT	PAPER NUMBER
1638	
MAIL DATE	DELIVERY MODE
08/26/2011	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Advisory Action Before the Filing of an Appeal Brief	**Application No.** 10/553,656	**Applicant(s)** SANZ MOLINERO, ANA ISABEL
	Examiner Vinod Kumar	**Art Unit** 1638

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 22 August 2011 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:
   a) ☒ The period for reply expires *3* months from the mailing date of the final rejection.
   b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

   Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
   (b) ☐ They raise the issue of new matter (see NOTE below);
   (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).
4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
   The status of the claim(s) is (or will be) as follows:
   Claim(s) allowed: *None*.
   Claim(s) objected to: *None*.
   Claim(s) rejected: *1,3,4,9,10,25,27,28,33 and 34*.
   Claim(s) withdrawn from consideration: *None*.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation Sheet.
12. ☐ Note the attached Information *Disclosure Statement*(s). (PTO/SB/08) Paper No(s). _____
13. ☐ Other: _____.

/Vinod Kumar/
Primary Examiner, Art Unit 1638

Continuation of 11. does NOT place the application in condition for allowance because: Claims 1, 3-4, 9-10, 25, 27-28 and 33-34 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Basel et al. (WIPO Publication No. WO 98/36084, Published 20 August, 1998, Applicant's IDS) in view of Zhou et al. (Mol. Gen. Genet. 248:318-328, 1995) for the reasons of record stated in the Final Office action mailed on 5/20/2011.

Applicant presents the same arguments that were addressed previously. Applicant continues to argue that that increased growth rate described in the primary reference will be understood by one of ordinary skill to relate to speed of growth, and not to increasing seed yield as claimed. Applicant further argues that Basel et al. do not teach making a plant with increased growth and development. Applicant further argues that Basel et al. teach increasing plant growth development only in combination with other genes. Applicant further argues that cited references would not have led one of ordinary skill in the art to arrive at the claimed invention. Applicant also argues that Zhou et al. teachings would not have led to the claimed invention. Applicant also argues that the cited combination of art would not have led one of ordinary skill in the art to have expected an increased number of primary panicles, increased number of seed or increased weight as claimed (response, pages 2-7).

Applicant's arguments are carefully considered but are deemed to be unpersusaive. It is important to note that obviousness does not require an absolute certainty of success but merely a reasonable expectation thereof, so long as the motivation or suggestion to combine the teaching of the cited references is known or disclosed in the prior art and is obvious to one skilled in the art and this is sufficient to establish a prima facie case of obviousness. In the instant case, one of ordinary skill in the art would have used teachings of the prior art as discussed above to arrive at the claimed invention with a reasonable expectation of success. Applicant's attention is drawn to the paragraph bridging pages 36 and 37 of Basel et al., wherein the reference states: "The present inventors have discovered that the metal binding protein, metallothionein, enhances the growth rates of a number of plants. This therefore indicates that the class of metal binding proteins naturally occurring in various animals offers an advantage in growth rates by reducing the level of toxic cations in growing plant cells."Applicant's attention is also drawn to claims 17 and 18 on page 129 of Basel et al., wherein the reference clearly teaches a method of enhancing plant growth by expressing a metallothionein protein in a transgenic plant. Applicant's attention is also drawn to page 2, lines 11-23; page 9, lines 7-14; page 35, line 6; page 37, line 12; SEQ ID NO: 7, wherein Basel et al. teach a method of making a transgenic plant with increased growth and development comprising introducing and overexpressing a nucleic acid sequence encoding a metallotheonin, and wherein the nucleic acid is expressed under a constitutive promoter. Applicant's attention is also drawn to page 318, abstract; page 322, figure 3; page 324, figures 6 and 7; page 326, 2nd column through the end of 1st column of page 327 of Zhou et al., wherein the reference clearly teach a nucleic acid sequence encoding Arabidopsis type 2 metallothionein protein (MT2a) which has 100% sequence identity to instant SEQ ID NO: 2. The reference further teaches that nucleic acid sequences encoding members of metallothionein proteins are differentially regulated. The reference specifically teaches that compared to other members of the gene family, MT2a is overexpressed in the mature leaves and inflorescence. Given that Basel et al. do provide a strong motivation in expressing a metallotheonin protein from a constitutive promoter in a plant to increase plant growth and development as discussed above, it would have been obvious and within the scope of an ordinary skill in the art to express a metallothionein protein, such as MT2a (100% identity to instant SEQ ID NO: 2) of Zhou et al. in a plant to arrive at the claimed invention with a reasonable expectation of success. It is therefore, maintained that it would have been prima facie obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the method of making a transgenic plant with increased growth and development as taught by Basel et al., to substitute the coding sequence encoding Basel et al. metallothionein protein with a nucleotide sequence encoding Zhou et al. type 2 metallothionein protein to obtain a transgenic plant and transgenic seed expressing Zhou et al. metallothionein protein. It is further maintained that given that Basel et al. teach overexpressing a metallothionein protein in a plant improves growth and development, and Zhou et al. teach that type 2 metallothionein proteins (MT2a, in particular) are highly expressed in tissues like leaf and inflorescence, it would have been obvious and within the scope of an ordinary skill in the art to have been motivated to express Zhou et al. sequence in a plant to obtain transgenic plants having improved growth and development with a reasonable expectation of success. It would have been obvious that increased growth and development would have improved yield, such as seed yield with a reasonable expectation of success. Obviously, one of ordinary skill in the art would have been motivated to select transgenic plants overexpressing transgenic nucleic acid encoding Zhou et al. metallothionein and which exhibited improvement in any plant characteristics, including seed yield and/or biomass. It would have been obvious to one of ordinary skill in the art that any increase in seed yield would have been reflected in terms of increase in total number of seeds and/or increased total weight of seeds. It is important to note that it would have been obvious that one of ordinary skilled in the art would have also observed increased seed yield and biomass in the transgenic plant overexpressing Zhou et al. type 2 metallothionein protein because increased seed yield and biomass would have been due to the over-expression of Zhou et al. type 2 metallothionein (100% identity to instant SEQ ID NO: 2) in the transgenic plant. It is thus maintained that while one of ordinary skill in the art would have expressed Zhou et al. MT2a protein in a plant using any method of plant transformation including the one taught by Basel et al. for the purpose of obtaining a transgenic plant with improved growth and development, it would have been obvious that said plant would have also exhibited any other characteristics including increased seed yield and/or biomass traits with a reasonable expectation of success because these traits are directly related to the property of Zhou et al. protein over-expression in said transgenic plant. It may be noted that the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have been obvious and within the scope of an ordinary skill in the art to combine the teachings of Basel et al. and Zhou et al. as discussed above to arrive at the claimed invention with a reasonable expectation of success. Thus, it is maintained that the claimed invention as a whole is prima facie obvious over the combined teachings of the prior art.